

# MT TeenVax: Shaping the Future Three Shots at a Time

2017 Immunization  
Regional Workshops  
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# Discussion

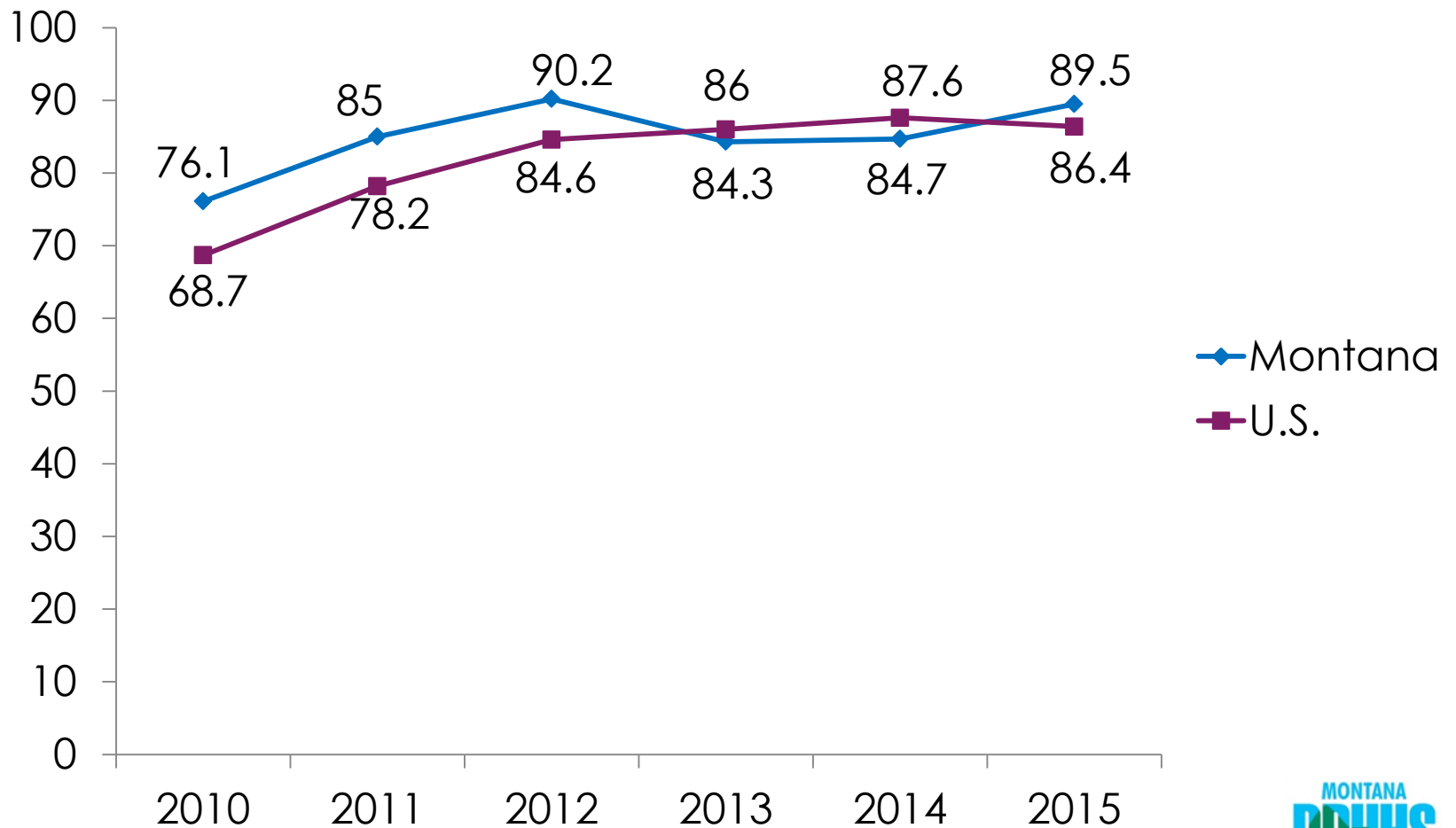
- MT TeenVax
- Immunization Coverage Rates for Teens
- ACIP Recommendations
  - Meningococcal
  - Human papillomavirus
- MT TeenVax – Montana Immunization Program Activities

# MT TEEN VAX

- MT TeenVax is the name for Montana's adolescent immunization program.
- MT TeenVax's goal is to raise Tdap, MCV, HPV, and influenza immunization coverage rates for adolescents in Montana through
  - Access to vaccine
  - Education
  - Partnerships

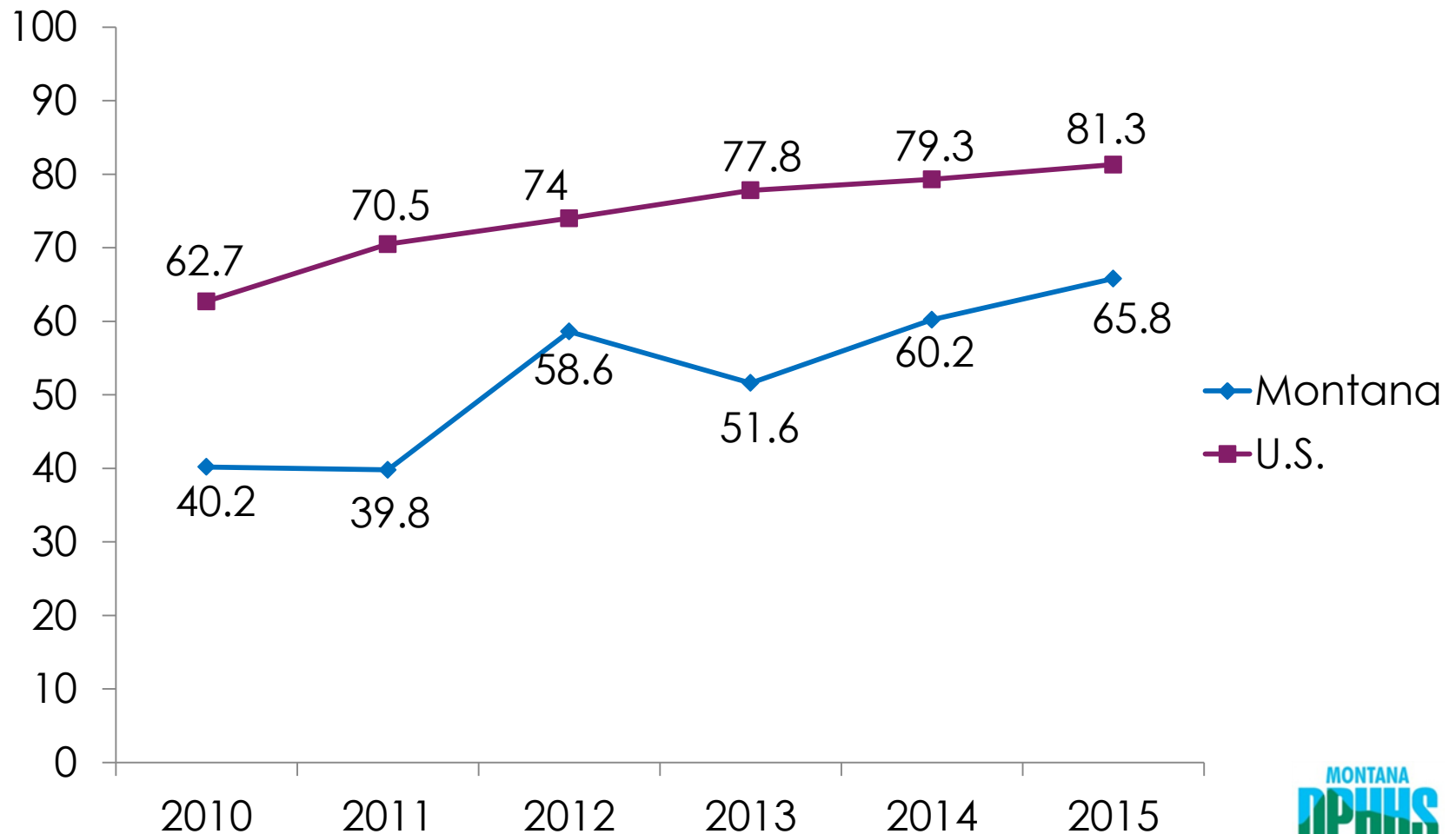


## Estimated Tdap Coverage, Aged 13-17 Years, National Immunization Survey-Teen



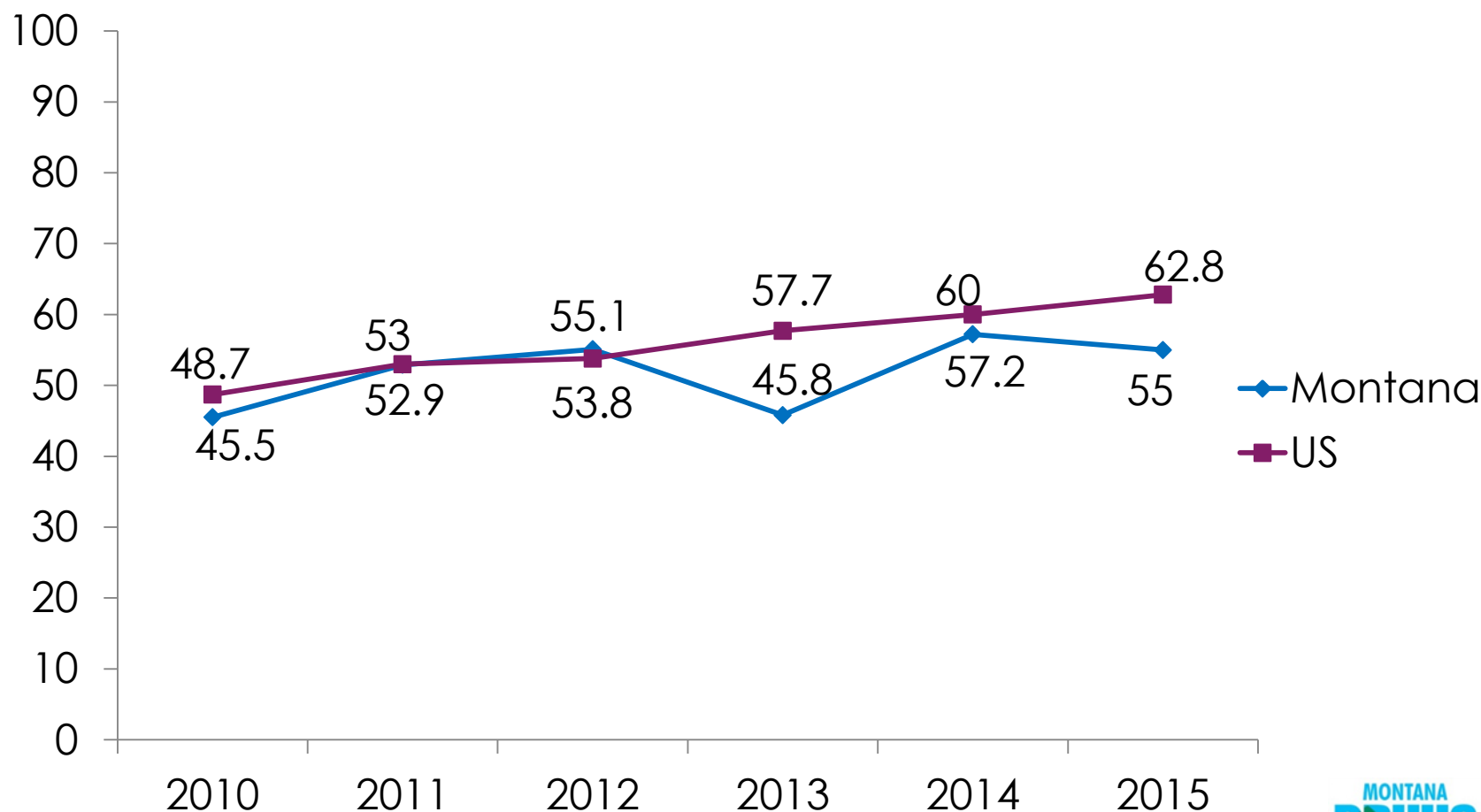
Data Source: CDC, NIS-Teen, 2010-2015

## Estimated MCV4 Coverage, Aged 13-17 Years, National Immunization Survey-Teen



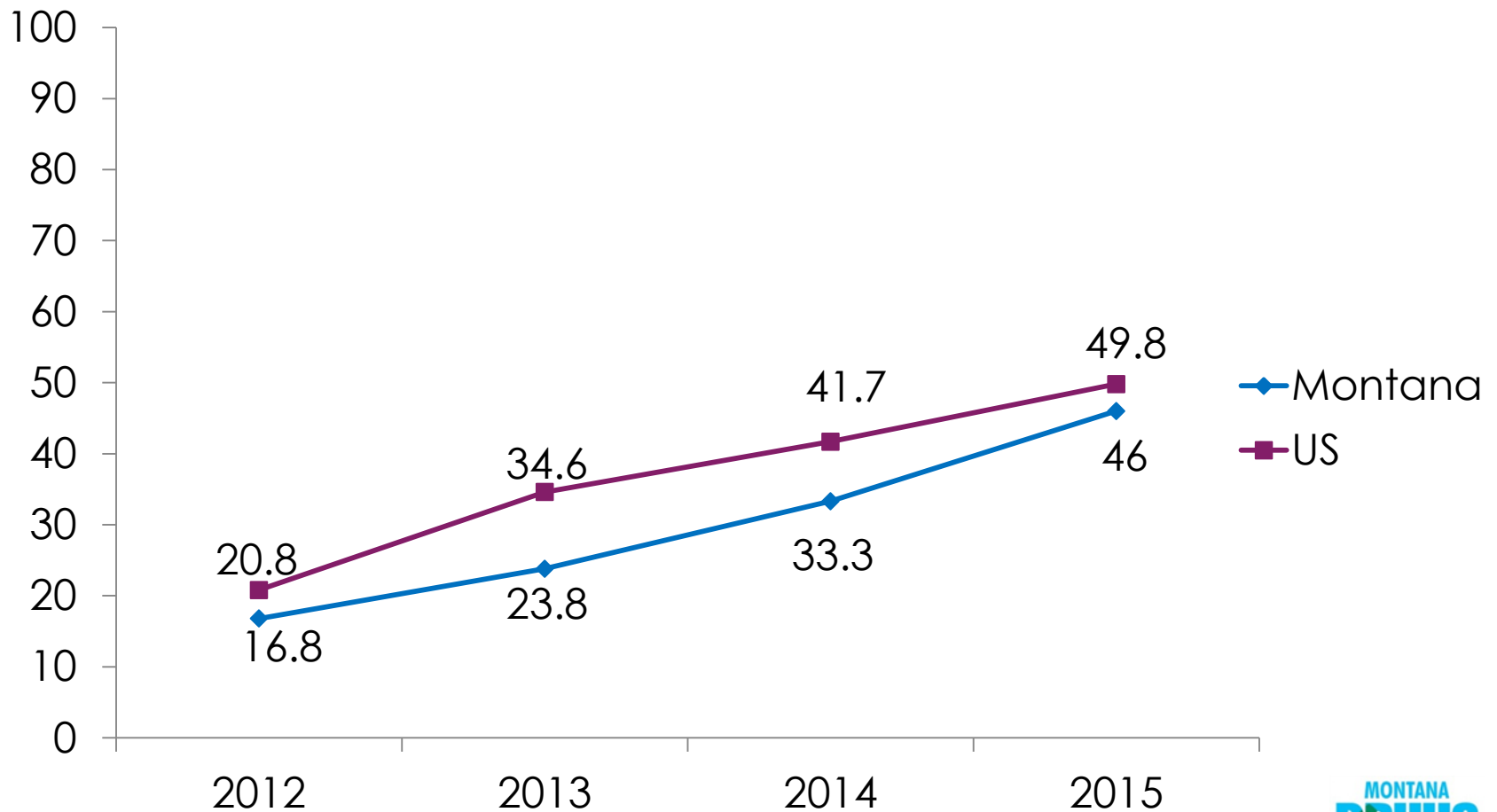
Data Source: CDC, NIS-Teen, 2010-2015

## Estimated HPV 1 Dose Coverage, Females Aged 13-17 Years, National Immunization Survey-Teen



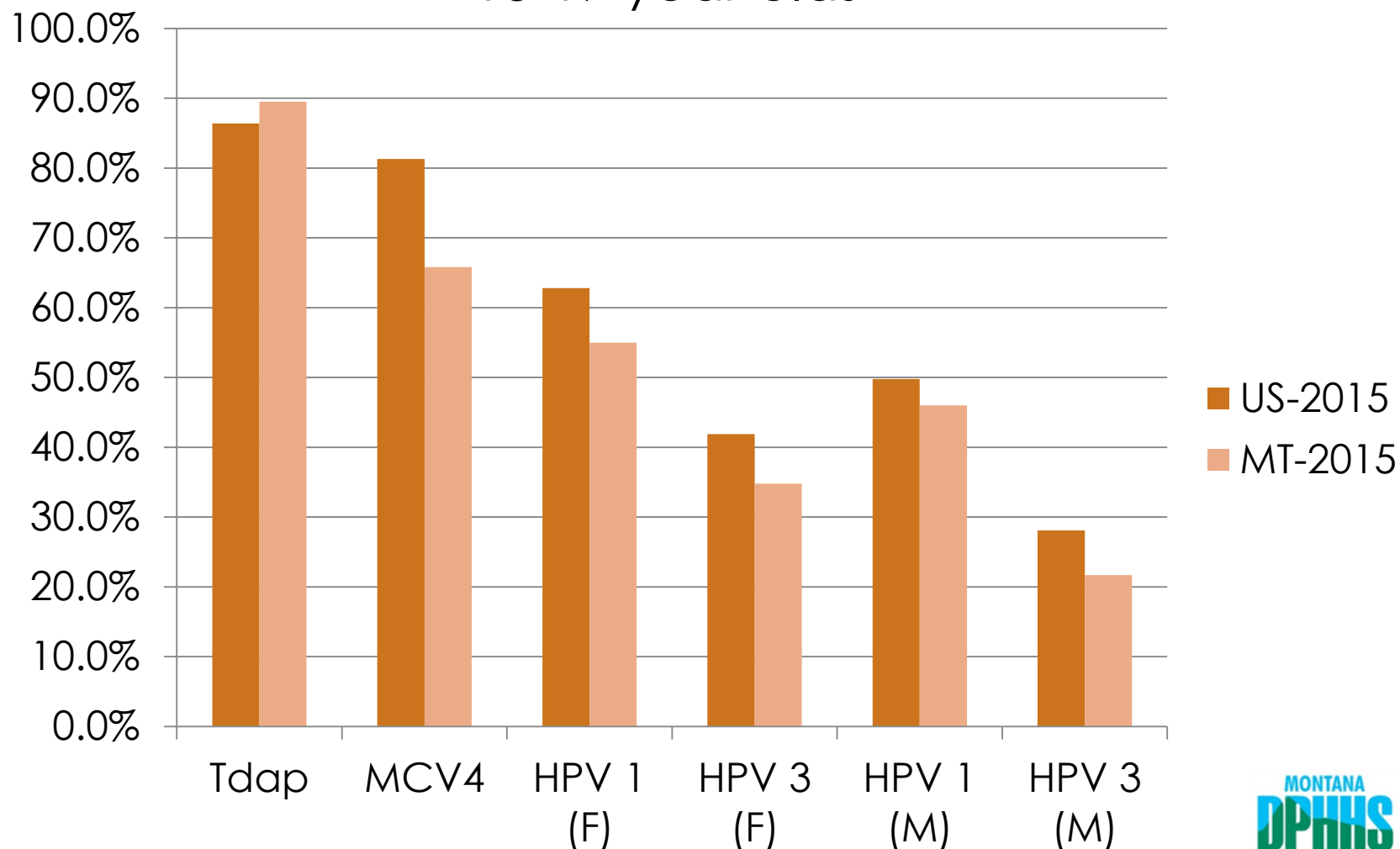
Data Source: CDC, NIS-Teen, 2010-2015

## Estimated HPV 1 Dose Coverage, Males Aged 13-17 Years, National Immunization Survey-Teen



Data Source: CDC, NIS-Teen, 2012-2015

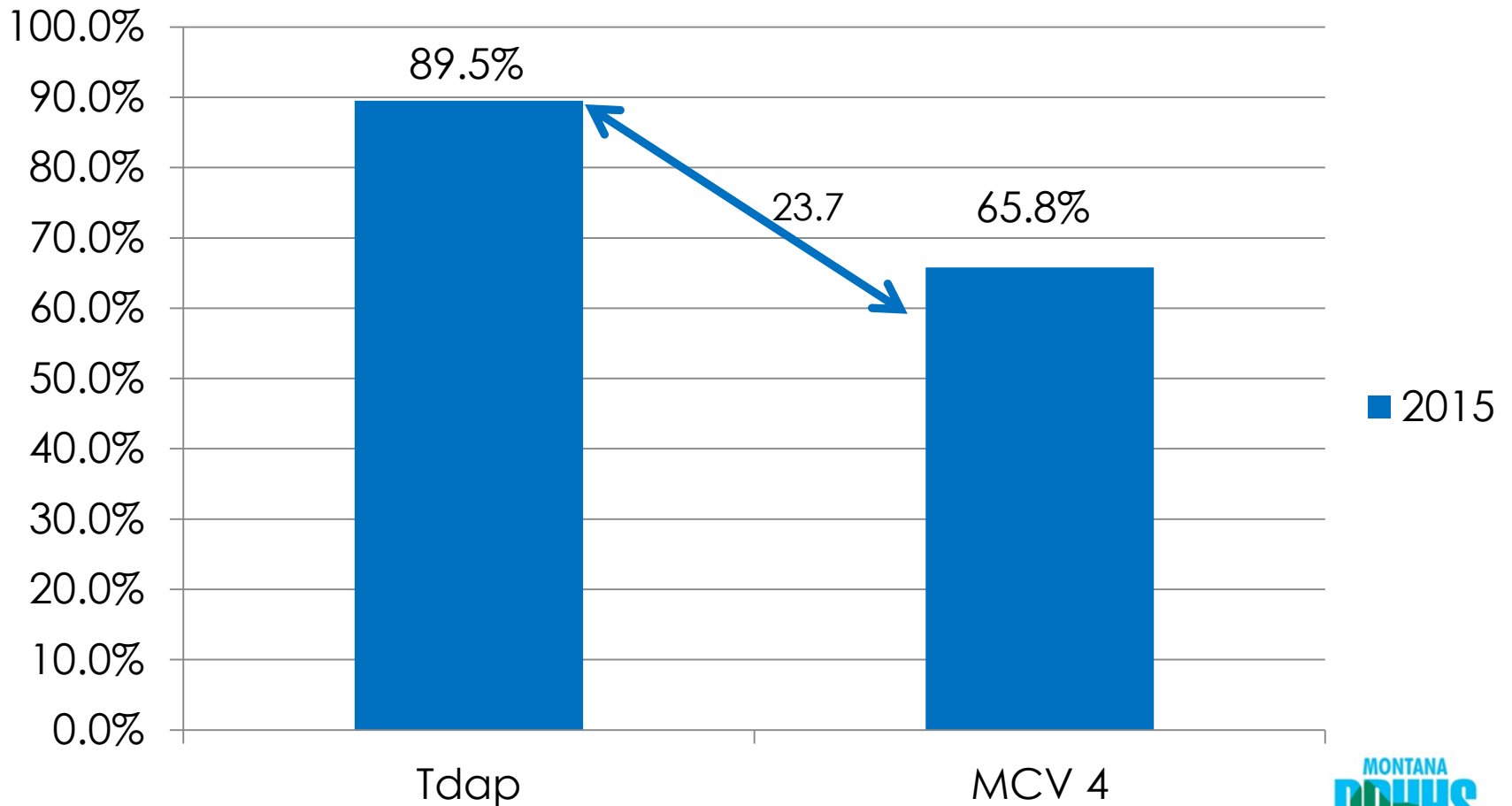
## 2015 National Immunization Survey - Teen 13-17 year olds



Data Source: CDC, NIS-Teen, 2015



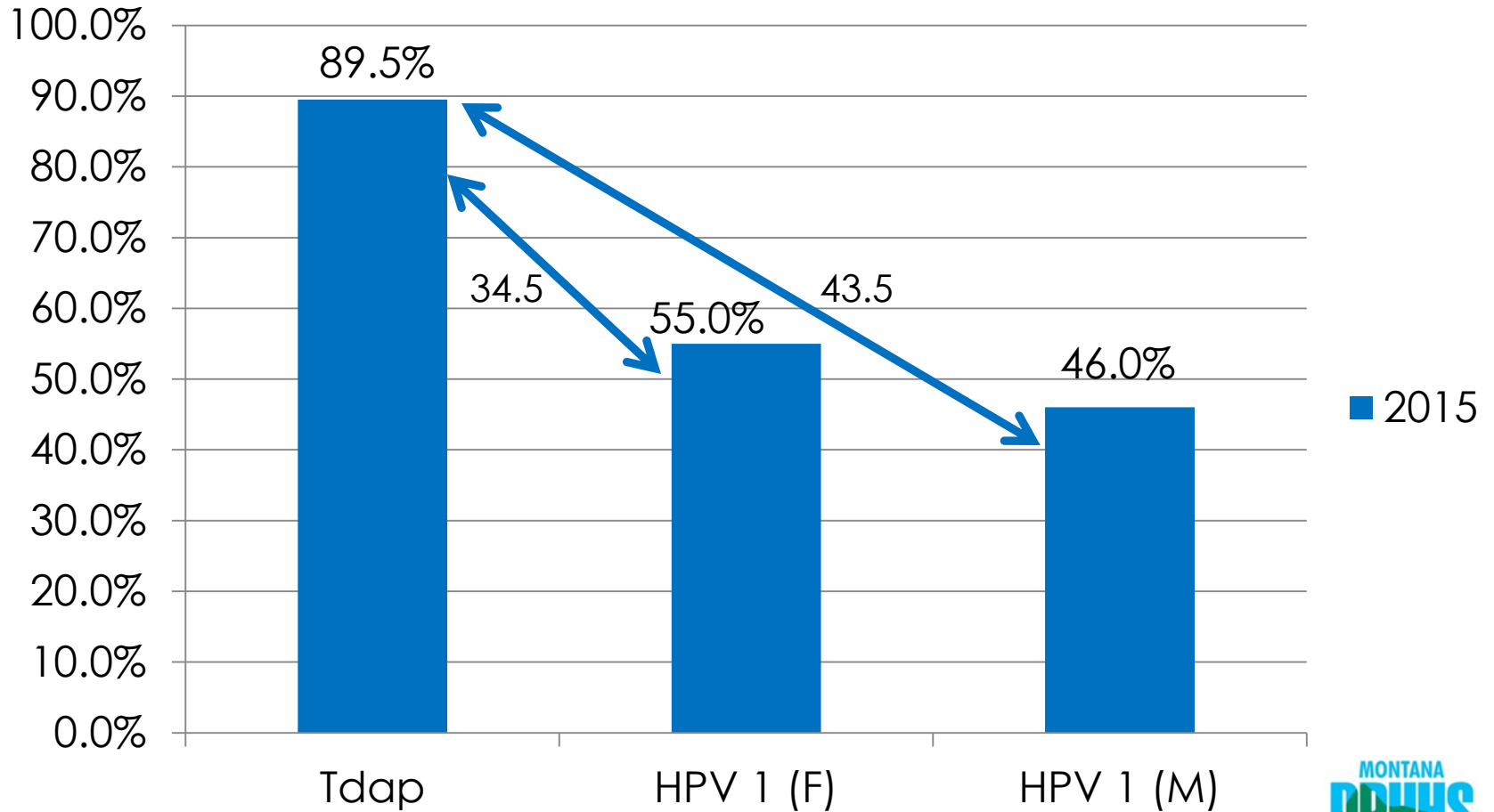
## 2015 Missed Opportunities Tdap and MCV4



Data Source: CDC, NIS-Teen, 2015

# 2015 Missed Opportunities

## Tdap and HPV #1



Data Source: CDC, NIS-Teen, 2015

# ACIP Recommendations, 2017

**Figure 1. Recommended Immunization Schedule for Children and Adolescents Aged 18 Years or Younger—United States, 2017.**

**(FOR THOSE WHO FALL BEHIND OR START LATE, SEE THE CATCH-UP SCHEDULE [FIGURE 2]).**

These recommendations must be read with the footnotes that follow. For those who fall behind or start late, provide catch-up vaccination at the earliest opportunity as indicated by the green bars in Figure 1. To determine minimum intervals between doses, see the catch-up schedule (Figure 2). School entry and adolescent vaccine age groups are shaded in gray.

Vaccine	Birth	1 mo	2 mos	4 mos	6 mos	9 mos	12 mos	15 mos	18 mos	19-23 mos	2-3 yrs	4-6 yrs	7-10 yrs	11-12 yrs	13-15 yrs	16 yrs	17-18 yrs
Meningococcal <sup>1,2</sup> (Hib-MenCY ≥6 weeks; MenACWY-D ≥9 mos; MenACWY-CRM ≥2 mos)			See footnote 11											1 <sup>st</sup> dose		2 <sup>nd</sup> dose	
Tetanus, diphtheria, & acellular pertussis <sup>1,2</sup> (Tdap; ≥7 yrs)														Tdap			
Human papillomavirus <sup>1,2</sup> (HPV)														See footnote 13			
Influenza <sup>2</sup> (IIV)					Annual vaccination (IIV) 1 or 2 doses									Annual vaccination (IIV) 1 dose only			

# Challenges to Vaccinating Teens

- Do not always present for routine, annual well checks
- Sport physicals do not always allow time for vaccines to be administered
- Many people are not as familiar with meningococcal and human papillomavirus as they are pertussis and influenza
- Some vaccines require more than one visit
- Tdap is required for school attendance, MCV and HPV are not



# Meningococcal

- Meningococcal disease is an acute, potentially severe bacterial illness caused by *Neisseria meningitidis*.
- Disease was first reported in the 16<sup>th</sup> century
- *Neisseria meningitidis* is the leading cause of bacterial meningitis and sepsis in U.S.
- Epidemic in sub-Saharan Africa
- Almost all invasive disease is caused by serogroups A, B, C, Y, and W
- U.S. is experiencing a historic low in meningococcal disease incidence - .18 per 100,000

# Disease

## Symptoms/Complications

- Disease
  - Abrupt onset of fever, headache, stiff neck, nausea, vomiting, sensitivity to light, confusion, rash
  - Incubation period is 3 to 4 days, with a range of 2 to 10 days
  - Case-fatality rate 10%-15%
- Meningococcal meningitis
  - Most common presentation of invasive disease
- Meningococcemia (bloodstream infection)
  - May occur with or without meningitis
  - Case-fatality rate up to 40%
  - Up to 20% of survivors have permanent sequelae including hearing loss, neurologic damage, or loss of limb.



# MCV Timeline of Recommendations

- **2005:** Licensure of and first recommendation for routine vaccination of adolescents with MenACWY-D (Menactra®).
- **2006:** Because of limited vaccine supply, vaccination was first limited to cohorts of children entering high school and entering college and persons aged 11–55 years at increased risk for meningococcal disease. ←
- **2007:** After vaccine supply became sufficient, ACIP recommended vaccination for all adolescents aged 11–18 years. § ACIP recommended vaccination of children aged 2–10 years at increased risk for meningococcal disease. ←
- **2009:** ACIP recommended booster dose for persons who remain at increased risk for meningococcal disease, administered every 5 years except for children who received their previous dose prior to their seventh birthday; these children should receive a booster dose 3 years after their previous dose.
- **2010:** The Food and Drug Administration licensed a second vaccine product, MenACWY-CRM (Menveo®). ACIP added a booster dose at age 16 years and recommended a 2-dose primary series for all persons with asplenia, persistent complement component deficiency, and for persons with human immunodeficiency virus infection. ←
- **2011:** ACIP recommended a 2-dose primary series for children aged 9–23 months at increased risk for meningococcal disease.
- **2012:** ACIP recommended a 4-dose primary series of Hib- MenCY-TT for children aged 2–18 months at increased risk for meningococcal disease.
- **2013:** ACIP recommended a third vaccine for vaccinating children aged 2–23 months at increased risk for meningococcal disease.
- **2016:** ACIP recommended routine vaccination for persons aged  $\geq 2$  months with HIV infection.

Sources: MMWR, Prevention and Control of Meningococcal Disease, March 22, 2013, Vol. 62, No. 2  
MMWR, Use of MenACWY-CRM Vaccine in Children Aged 2 Through 23 Months at Increased Risk for Meningococcal Disease, June 20, 2014, Vol. 63, No. 24  
MMWR, Recommendations for Use of Meningococcal Conjugate Vaccines in HIV-Infected Persons, November 4, 2016, Vol. 65, No. 43

# Average annual estimate number and rate of cases of meningococcal disease

TABLE 2. Average annual estimated number and rate\* of cases of meningococcal disease, by age group and serogroup — United States, 2002–2011†

Age group	Serogroup B		Serogroup C		Serogroup Y		Other‡		Total	
	No.	(Rate)	No.	(Rate)	No.	(Rate)	No.	(Rate)	No.	(Rate)
< 1 yr	117	(2.8)	14	(0.3)	38	(0.9)	8	(0.2)	177	(4.3)
0–5 mos	74	(3.6)	5	(0.3)	23	(1.1)	6	(0.3)	108	(5.3)
6–11 mos	43	(2.1)	9	(0.4)	15	(0.7)	2	(0.1)	69	(3.4)
1 yr	28	(0.7)	9	(0.2)	2	(0.1)	3	(0.1)	42	(1.0)
2–4 yrs	38	(0.3)	16	(0.1)	8	(0.1)	7	(0.1)	69	(0.6)
5–10 yrs	31	(0.1)	16	(0.1)	12	(0)	3	(0)	62	(0.3)
11–18 yrs	28	(0.1)	43	(0.1)	43	(0.1)	10	(0)	124	(0.4)
19–21 yrs	26	(0.2)	23	(0.2)	16	(0.1)	3	(0)	68	(0.5)
22–24 yrs	21	(0.2)	22	(0.2)	7	(0.1)	1	(0)	51	(0.4)
25–64 yrs	93	(0.1)	129	(0.1)	125	(0.1)	21	(0)	368	(0.2)
≥65 yrs	20	(0.1)	33	(0.1)	114	(0.3)	19	(0.1)	186	(0.5)
Total	402	(0.1)	305	(0.1)	365	(0.1)	76	(0)	1,146	(0.4)

Source: CDC, Unpublished data, Active Bacterial Core surveillance (ABCs) system, 2002–2011.

\* Per 100,000 population.

† ABCs cases from 2002–2011 estimated to the U.S. population with 18% correction for underreporting. In 2010, estimated case counts from ABCs were lower than cases reported to the National Notifiable Diseases Surveillance System and might not be representative.

‡ Includes serogroup W135, nongroupable, and other serogroups.



# Rate of meningococcal disease, by age group and serogroup

TABLE 3. Rate\* of meningococcal disease, by age group and serogroup — United States, 1998–2011†

Years	Serogroup C, Y, W						Serogroup B					
	<1 yr		11–19 yrs		≥20 yrs		<1 yr		11–19 yrs		≥20 yrs	
	Rate	(CI)	Rate	(CI)	Rate	(CI)	Rate	(CI)	Rate	(CI)	Rate	(CI)
1998–1999	5.86	(4.24–7.90)	1.13	(0.90–1.41)	0.47	(0.41–0.54)	3.32	(2.21–4.86)	0.22	(0.13–0.36)	0.14	(0.11–0.19)
2000–2001	2.32	(1.45–3.55)	0.71	(0.54–0.91)	0.38	(0.33–0.44)	4.30	(3.02–5.95)	0.27	(0.17–0.41)	0.13	(0.10–0.17)
2002–2003	2.06	(1.23–3.26)	0.55	(0.40–0.73)	0.25	(0.21–0.30)	4.30	(3.06–5.90)	0.20	(0.12–0.32)	0.11	(0.09–0.15)
2004–2005	0.77	(0.33–1.55)	0.27	(0.17–0.39)	0.17	(0.14–0.21)	3.10	(2.10–4.42)	0.11	(0.06–0.20)	0.07	(0.05–0.09)
2006–2007	1.20	(0.61–2.11)	0.31	(0.21–0.45)	0.23	(0.19–0.28)	2.11	(1.32–3.22)	0.05	(0.02–0.12)	0.06	(0.04–0.09)
2008–2009	0.93	(0.48–1.69)	0.15	(0.08–0.26)	0.23	(0.19–0.27)	2.92	(1.99–4.18)	0.10	(0.04–0.18)	0.07	(0.05–0.10)
2010–2011	1.37	(0.74–2.33)	0.05	(0.02–0.12)	0.14	(0.11–0.18)	1.33	(0.72–2.29)	0.00	(0.00–0.05)	0.03	(0.02–0.05)

Abbreviation: CI = 95% confidence interval.

Source: CDC, Unpublished data, Active Bacterial Core surveillance (ABCs) system, 1998–2011.

\* Per 100,000 population.

† ABCs cases from 1998–2011 estimated to the U.S. population with 18% correction for nonculture-confirmed cases. In 2010, estimated case counts from ABCs were lower than cases reported to the National Notifiable Diseases Surveillance System and might not be representative.

# MCV Recommendations

- Routine recommendation of the first dose to be administered at age 11-12 years
  - Catch-up schedule if first dose is administered at age 13-15 years
- Booster dose recommended at 16 years
  - For those that received a first dose before 16 years of age
- Persons aged  $\geq 2$  months with certain medical conditions
- Special populations such as unvaccinated or incompletely vaccinated
  - first-year college students living in residence halls, military recruits, or microbiologists with occupational exposure (indication for booster dose 5 years after prior dose if at continued risk)
- Persons aged  $\geq 9$  months who travel to or reside in countries in which meningococcal disease is hyperendemic or epidemic
- Vaccination of persons in at-risk groups to control outbreaks

Every year in the U.S., 27,000 people get cancer caused by HPV.



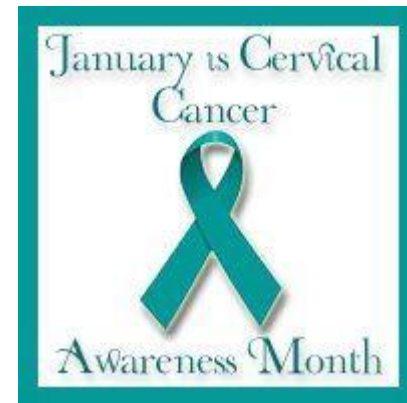
That's 1 person every 20 minutes of every day, all year long.

# Human Papillomavirus

- Small, double stranded DNA viruses that infect the epithelium
- More than 120 types
  - 40 types infect the mucosal epithelium
    - Low risk, nononcogenic, types 6 and 11
    - High risk, oncogenic, types 16 and 18
- Relationship of cervical cancer and sexual behavior suspected for more than 100 years
  - Established link in 1960's
  - In the 1980's it was demonstrated that cervical cancer cells contained HPV DNA
  - In the 1990's studies were published showing association between HPV and cervical cancer
- First vaccine licensed in 2006

# Disease Symptoms/Complications

- Most infections are asymptomatic with no clinical disease
- Clinical manifestations include:
  - Anogenital warts
  - Recurrent respiratory papillomatosis
  - Cervical cancer precursors
    - Cervical intraepithelial neoplasia
  - Cancer
    - Cervical
    - Anal
    - Vaginal
    - Vulvar
    - Penile
    - Oropharyngeal



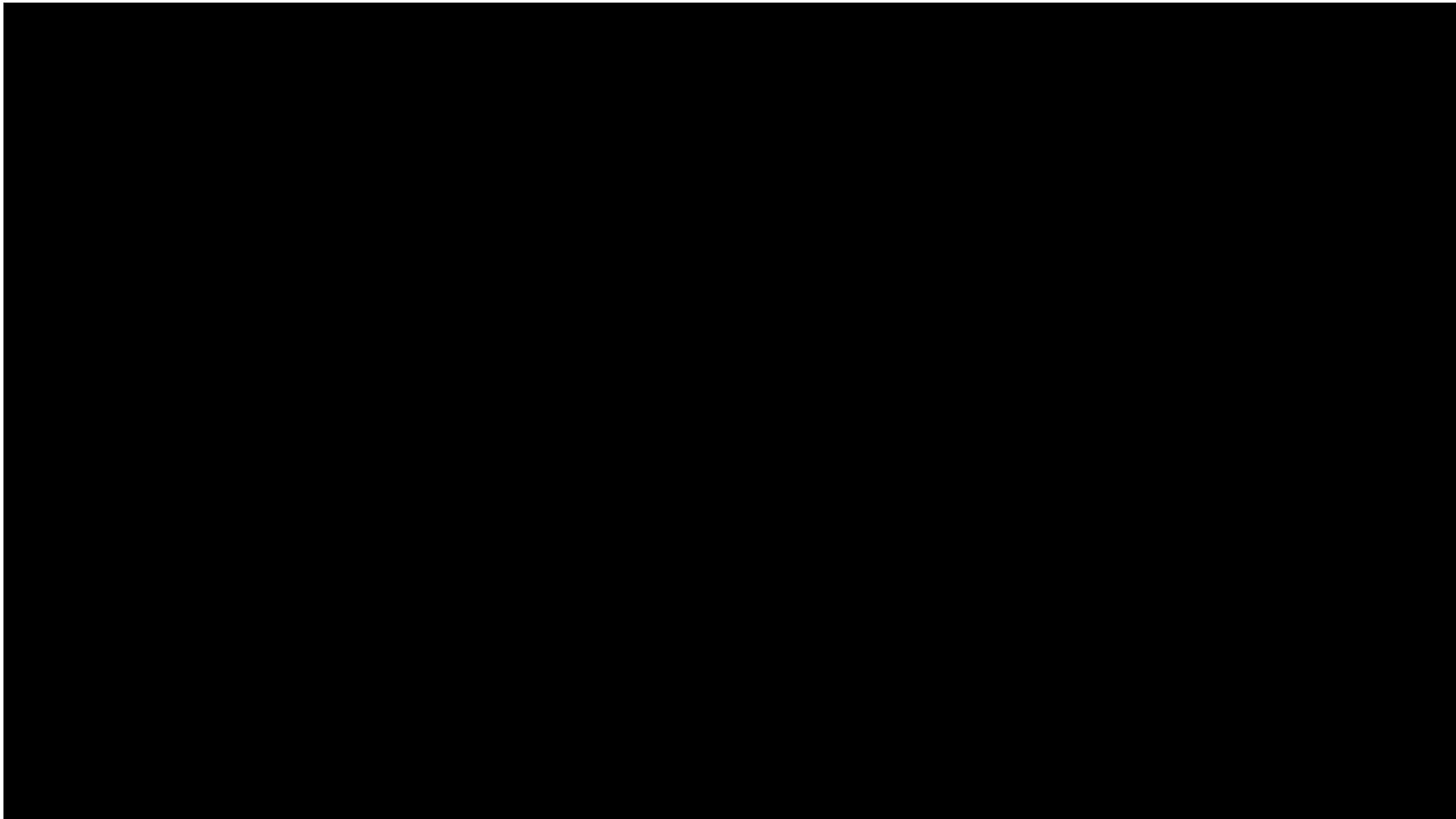
# Disease Burden in the U.S.

- Estimated that there are 79 million people infected
    - 14 million new infections each year
    - About half of the new infections occur in persons aged 15-24 years
  - HPV is believed to be responsible for almost all cases of cervical cancer
    - 12,595 cases of cervical cancer
    - 3,968 deaths due to cervical cancer
    - HPV high risk types 16 and 18 are associated with approximately 70% of these cancers
    - 300,000 diagnosed with high grade cervical dysplasia (precancer)
    - 1.4 million diagnosed with low grade cervical dysplasia
- Montana, on average  
31 cases and 10 deaths  
each year

Source: MMWR, Human Papillomavirus Vaccination, August 29, 2014, Vol. 63, No. 5; Epidemiology and Prevention of Vaccine-Preventable Diseases, 13<sup>th</sup> ed, pages 175-186

“The HPV vaccine does not  
open the door to sex, it closes  
the door to cancer.”

*-Tom Frieden, MD, MPH  
Former Director, CDC*



# American Cancer Society HPV Survivor Stories



# HPV Timeline of Recommendations

- **2006:** Licensure of quadrivalent HPV vaccine (HPV4) for females 9-26 years(Gardasil®).
- **2007:** ACIP recommends use of HPV4 vaccine for females at 11-12 years. It can be administered as early as 9 years. Catch-up vaccination is recommended for females 13-26 years. ←
- **2009:** Licensure of bivalent HPV vaccine (HPV2) for females(Cervarix®). HPV2 was added to the schedule with HPV 4. Licensure of HPV4 vaccine for males 9-26 years(Gardasil®). ACIP recommended HPV4 be administered to males 9-26 years. ←
- **2011:** ACIP updates HPV 4 vaccine recommendations for males, routinely recommending it at 11-12 years. It can be administered as early as 9 years. Catch-up vaccination is recommended for males 13-21 years. It may be administered to males 22-26 years. ←
- **2014:** Licensure of 9-valent HPV (HPV9) vaccine for females 9-26 years(Gardasil® 9).
- **2015:** ACIP recommended HPV9 for females and males be added to the schedule along with HPV2 (females only) and HPV4. ←
- **2016:** ACIP recommends use of a 2-dose schedule for those who begin the series between 9-14 years of age. A 3-dose schedule is for those who start the series at ages 15-26 years and those 9-26 years with immunocompromising conditions. ←

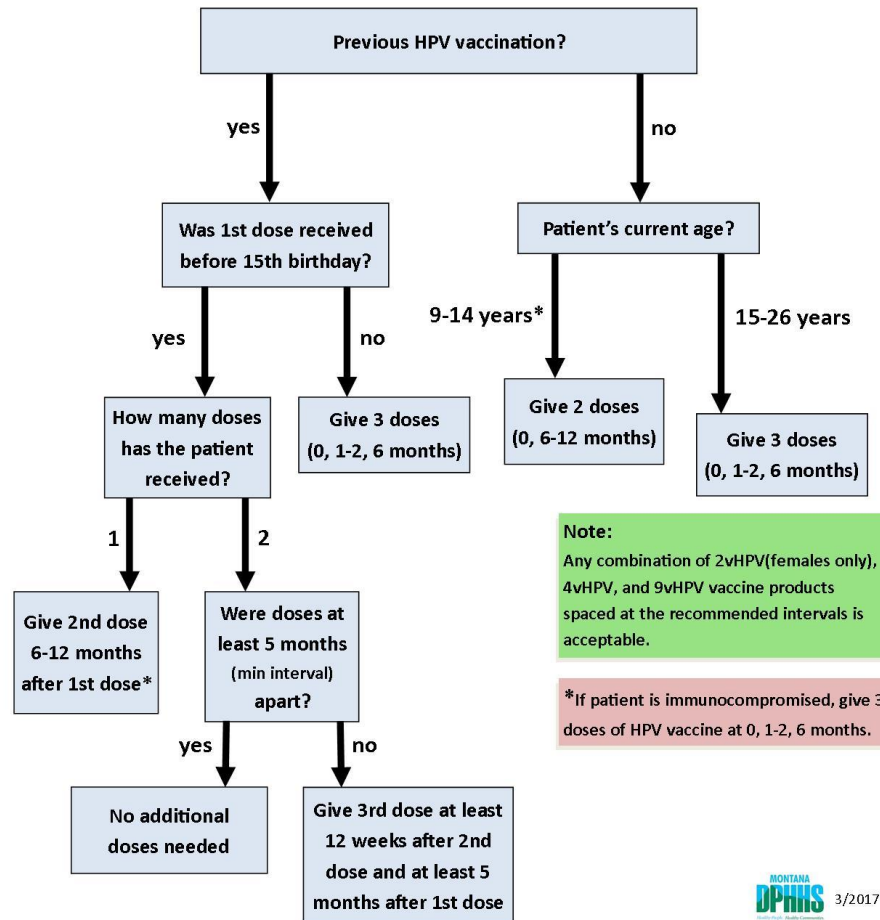
Sources: MMWR, Human Papillomavirus Vaccination, August 29, 2014, Vol. 63, No. 5  
MMWR, Use of 9-Valent HPV Vaccine: Updated HPV Vaccination Recommendations, March 27, 2015, Vol. 64, No. 11  
MMWR, Use of a 2-dose Schedule for Human Papillomavirus Vaccination, December 16, 2016, Vol. 65, No. 49

# HPV Recommendations

- The first HPV vaccine dose is routinely recommended at 11-12 years old. The second dose of the vaccine should be administered 6 to 12 months after the first dose (a minimum of 5 months).
- Adolescents aged 9 through 14 years who have already received two doses of HPV vaccine less than 5 months apart, will require a third dose.
- Teens and young adults who start the series at ages 15 through 26 years will continue to need three doses of HPV vaccine (0, 1-2 months, 6 months).
- Three doses are recommended for immunocompromised persons aged 9-26 years.

# HPV Vaccination Algorithm

Use this algorithm to determine how many doses of HPV vaccine a patient needs.





# Montana Immunization Program Activities

# Access to Vaccine

Montana Public Vaccine and Eligible Populations – 2017 Federal Fiscal Year (starting October 1, 2016)

County Health Department with FQHC/RHC Designation or Deputization

“X” indicates eligible population at your facility.  Indicates ineligible population or unavailable vaccine.

Vaccine Category	Vaccines	Funding Source	VFC Categories (through 18 years)				State-Underinsured <sup>4</sup>	Adult		CDC Fully Insured <sup>5</sup>
			Medicaid	American Indian/Alaskan Native	Uninsured <sup>2</sup>	VFC/CDC Underinsured <sup>3</sup>		Uninsured	CDC Underinsured <sup>3</sup>	
Pediatric	DTaP IPV HIB Hep B Hep A PCV13 PPSV23 MMR Rotavirus Varicella Influenza	VFC	X	X	X	X				
Adolescent	MCV Tdap HPV	VFC State	X	X	X	X	X			
Adult <sup>1</sup>	Hep A/B Tdap/Td MMR HPV PPSV23 Influenza	317						X	X	
imMTrax Eligibility Designation <sup>6</sup>			Medicaid Recipient	American Indian or Alaskan Native	Not Insured	Underinsured-VFC	Underinsured-State supplied	Not Eligible Adult-Not Insured	Not Eligible Adult-Underinsured	Not Eligible

<sup>1</sup> State-supplied adult vaccine is only distributed to public clinics.

<sup>2</sup> Uninsured: A person who has no public or private health insurance.

<sup>3</sup> VFC/CDC Underinsured: A person who has health insurance, but the coverage does not include vaccines, only covers select vaccines, or coverage is capped at a certain amount. They are underinsured for the non-covered vaccines and vaccines received after exceeding the cap (FQHC/RHCs only).

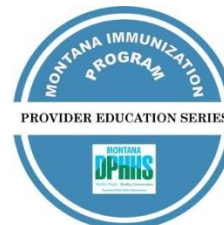
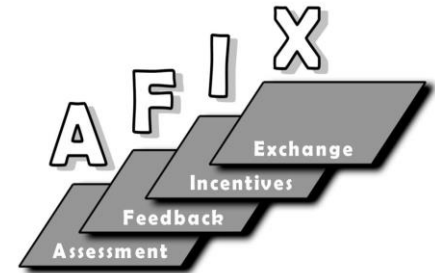
<sup>4</sup> State Underinsured: A person who has health insurance that covers or partially covers vaccines, but the co-pay or deductible is considered not affordable by the patient/parent/guardian (local health departments only).

<sup>5</sup> CDC Fully Insured: Anyone with insurance that covers the cost of vaccine, even if the insurance includes a high deductible or co-pay, or if a claim for the cost of the vaccine and its administration would be denied for payment by the insurance carrier because the plan's deductible had not been met.

<sup>6</sup> The imMTrax eligibility designation “Unknown or Undetermined” is not allowed when using public vaccine.

# Montana Immunization Program Activities

- Adolescent AFIX (QI project)
  - Feedback Sessions via WebEx
- IZ Provider Education Series
  - Sept 2016 – Influenza and high-risk group
  - Nov 2016 – HPV
  - March 2017 – Communicating with Parents
  - May 2017 – Adolescent Vaccines
- Educational resources on MT TeenVax webpage



# Teen Vaccine Promotional/Educational Campaign

- In support of the two strategies identified through the HPV/Adolescent Working Group, the Montana Immunization Program has:
  - launched a new webpage to highlight the importance of adolescent vaccines
    - to provide information, resources and educational opportunities for providers, parents, and teens
  - in collaboration with our partners, supported a statewide drawing to increase awareness about these vaccines



# MT TeenVax Challenge

- MT TeenVax Challenge (planned for 2016, 2017, & 2018)
  - Statewide drawing - \$50 Amazon gift cards, one or more per county
  - Press release
- Mailing to clinics
  - Buttons, table tent/poster, education on vaccines
    - promoting vaccines and drawing
- MT TeenVax website launched
  - <http://dphhs.mt.gov/publichealth/Immunization/AdolescentVaccines>
  - Information for providers, parents, teens
- Facebook post
- Pandora messages
  - Teen vaccines
  - imMTrax





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**MT TEEN VAX**  
Teen Vaccination Challenge

**Did you know?**

**Teens need vaccines too!**

- ★ Tetanus, diphtheria, pertussis (Tdap)
- ★ Meningococcal conjugate (MCV4)
- ★ Human papillomavirus (HPV)
- ★ Influenza, yearly

If you're an 11-17 year old and have received 1 Tdap, 1 MCV4, and 1 HPV, your parent/guardian can enter your name to win a \$50 Amazon Gift Card.

**Enter to win by December 2, 2016!**

**MT TEEN VAX**  
Teen Vaccination Challenge

Calling all 11-17 year olds...

**Enter to win a \$50 Amazon Gift Card**

It's as easy as  
**Check, Enter, Win!**

- 1 **Check** your immunization record to see if you have received at least 1 Tdap, 1 MCV4, and 1 HPV vaccine. If not, consider catching up on these teen vaccines.
- 2 **Parents/Guardians:** For teens who have received at least one shot of each of these 3 vaccines (at any time), **enter** your teen's name into the drawing by December 2, 2016 at [immunization.mt.gov](http://immunization.mt.gov).
- 3 **Winners** will be announced in December 2016. Immunization records will be verified through imMTrax or provider record.

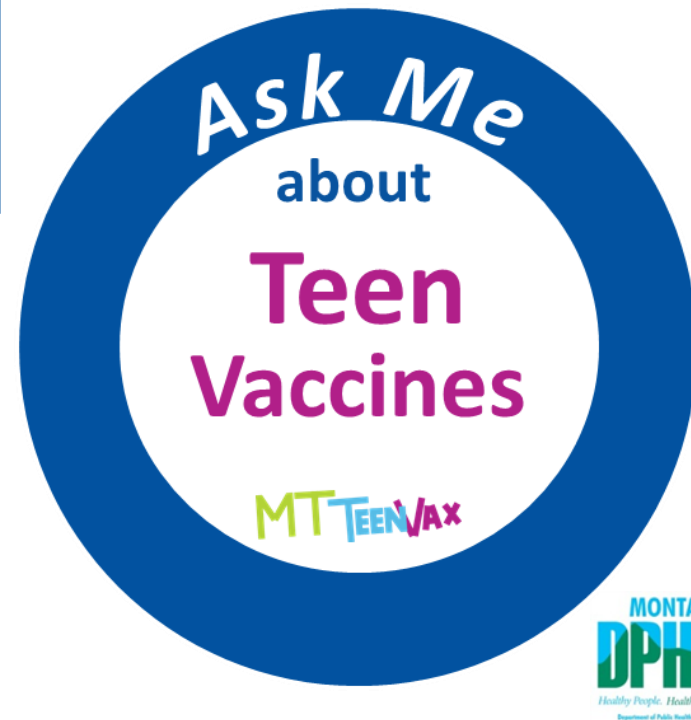
**At least one winner per county!**  
One entry per teen.

Questions? Contact the MT Immunization Program at (406) 444-5580

Scan here for more information!

**MT TEEN VAX**  
MONTANA DPHHS  
MONTANA ACADEMY OF FAMILY PHYSICIANS  
CareVan®

Buttons for staff to wear



# HPV Vaccine Awareness Campaign

- Partnering with MT Cancer Control
  - Launch later in 2017
- Possible partnership with Oral Health
  - educational materials for dentist offices



# Adolescent Vaccine Awareness Campaigns

- Plan for awareness campaigns during the year:
  - Tdap
  - Meningococcal
  - Influenza



# HPV/Adolescent Vaccine Working Group

## Goal:

- Raise HPV, MCV, Tdap and influenza immunization coverage rates for adolescents in Montana. The focus will be on 11-18 year olds, with support for HPV catch-up for 19-26 year olds.

## Objectives:

- Develop a common strategy among partner groups
- Raise awareness through education (providers, parents, and teens)
- Strategies for vaccination
- Gather resources that can assist providers on evaluating coverage levels on a practice level
- Evaluation component – how will we evaluate our goal and objectives

# Partner Strategy 1

- Promote and recommend all adolescent vaccines
  - Routinely recommend all adolescent vaccines at 11-12 years of age and catch-up for 13 years of age and older
  - Promote strategies for vaccination to members
    - Adolescent AFIX



# Partner Strategy 2

- Participate in promotional/education campaigns
  - Assist in sharing promotional messages with providers to share with staff and patients
  - Share educational information to providers and/or parents through newsletter articles or other available methods
    - Post educational information and resources on website
  - Assist in identifying educational information/programs that would benefit providers in providing adolescent vaccines
  - Assist in increasing the overall presence of information/messages/discussion in Montana about the importance of vaccines for adolescents

# Sports Physicals & School Clinics

- Encourage offering immunizations at sports physicals
  - If immunizations cannot be offered, then provide information to hand out
- School clinics are offered by many local health departments
  - Provide information to hand out if an immunization is not available or for future consideration

What questions do you and/or the parents/patients have about Tdap, MCV, HPV, and Influenza vaccines for adolescents?

